

FIG. 1A

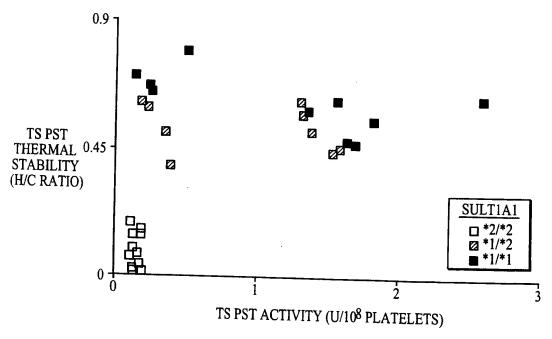


FIG. 1B

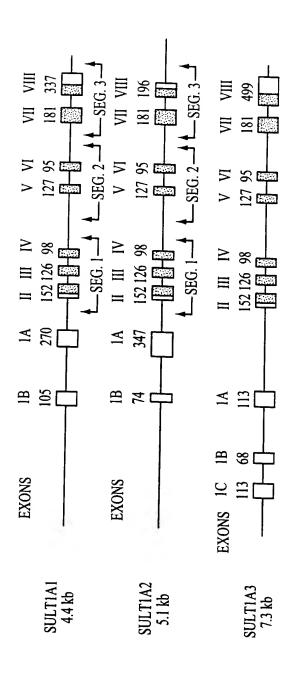


FIG. 2

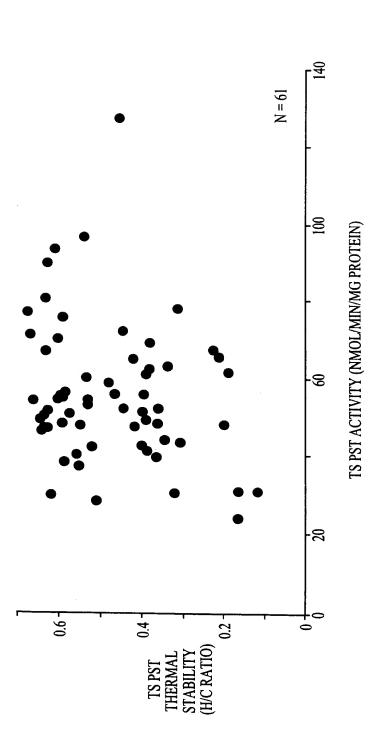


FIG. 3

atgetgeace aggitggiet ceaactectg geeteageet ecctagggie tgggattata ggigggagee accetgeeta ggeetgiget titgetgagt catetagage eaceagage totggeece actaggeet tigiteatte coacagatg gaetgiggee aggesagigg attageetgg agecagatg gaetgiggee aggesagigg ateacaggee tggetggeet gagagging catangage ateacaggee tggetggeet gagagging catangage acceasage ateacaggee tggetggeet gagagging catangage acceasage ateacaggee aggestggeet gagagging catangage accasage getcages gagagagging catangage accasage gacage accasage accasag coggotocoag atocotocoa cagtggs[CCT AGGNAACCCT CAGCTCAGAG AACAACCCTG CATTCCCCAC ACAGCACCCA CAATCAGCCA CTGCGGGCGA EXON IB |GGAGGGCACG AGGCCAGGTT CCCAAGAGCT CAGGTGagtg acacagtgga acggoccagg gogcotoac octgotoag ttgtgggotot aacattcoag cacettggee agegaggteg tgeceteage etgeteacee eccatetece teceteteca gRACCACCT GGGTGAGCCA GATTCTGGAC ATGATCTACC EXON III otosgocico etaggocica gigaeticoo igasagosag sattoosett tottgotgit gigatggigg taagggaaeg ggootggoto iggocociga egosgbaaca resascrear ccaseacace recescese cacresasra cereaasese erecesera reaasracri recasaseca cresescee EXON II tootgggtgo aaggggagtg gaggaagaca gggotggggo ttoagotcac oagacettee etgacecaot gotoag56AT 66A6ACTCT6 AAAGACACAC EXON IV egocacagoc totggagtag otaggactae aggeocteat cateetgeet ggttaatgtt taagaatttt tttaaagatt tttagagatg gggtettgea aagetgagge etetggeate cetgecettt ecceatggat ateceattte agaeaaceet ggeetgegtg aateceeete eetteeettg tttgtttgtt ttttoccog ggggaggcca ggtcttgctg teacceagge tggagtgctg tgggatcctg gccaetgcag cettgaatte etgggetcaa gtgattetet CTICACACAC CCIGATAICI GGGCCIIGCC CGACGAGGGI GCITICACIG GICTGCACCA IGGCCCAGGC CCIGGGAITI IGAACAGCIC CGCAGGTGAA M E L I Q D T S R P P L E Y W K G V P L I K Y F A E A L G P L T K O F F L I K Y F A E A L G P L TGCASAGCTT CCASGCCCGG CCTGATGAC TGCTCATCAG CACCTACCC AAGTCCGGta agtgaggagg gooaccasc ctctccagg tggcagtccc AGGOTGOTGA CCTGGAGAAG TGTCACCGAG CTCCCATCTT CATGCGGGTG CCCTTCCTTG AGTTCAAAGC CCCAGGGATT CCCTCAGTG tgtgagtgtg <u>'GàdAid</u>tga gyccagyctg gygaaccacc geattagays cogacctgyt tttcagceec age**ccogos** etgactgyt ttytgagtyc gyycaagtea COCCCCACO ACTCCTGAAG ACACACCTGC CCCTGGCTCT GCTCCCCCAG ACTCTGTTGG ATCAGAAGGT CAAGGTGAGG cagggcacag tgtttcacat costastece agesettigg gaggetgagg eaggeagate acetgaggti gggagtitga gageacetg ageacatag aagaacetig tetetaetaa asatacagas ttagecgggt gtggtggegg gtgeetgtas tecesgotae tecgaageet gagaeaggag aateaettga aceegggaga aggaggttgt gytgagocag agatoccaco attgoattoc agcotgagoa acaagagoaa aactoacaaa aataaataaa taaatagata tataaataaa aataaaactg ggtggetese tgetgtaatg ceagesettt gggaggeeaa attgggtgga teaettgage teaggagtta eagaceagee egggaaaeat catototata aaaatgcaaa atatoagcag ggcatggtgg catggogotg tagttocago tactggaaag totgaggttg gaggattgot tgagootgag aggtoaaggt tgcagtgagt tattatoact coagtgoact coaacotggg ogacagaaaa aaagaaagao caaggtottt tttotttttt igigaatoca gggaaggagg ocotggetoa goocagetit ggiccigite itcigggaaa giegoetoae itceiccago etigicicai eticigogge gggsotgto tgoctottgo totgstgscc aagaacgtaa ggotottoag tgtagsocta agaaagctag agggtgggto otoacaggco cacaaaattt ggiggeggig ggateaegge iggiggageg igeetigete eagategggg igigaegeat igaigeagat tatatigeta tagaataiga iggieteagg gaccaggrag gactttgget tetgagsagg gtteagatee tgacttggee etaooggtge egtgagatet caaacaagte ageetetaag eeteaggtte T S O I I D 17 12 14 E PFLEFKAPGI QKT THLPLALLPQTLID K S G QARPDDLLISTYP ) 2 PIF CHRA 0 S F ggggaactc tggcacctgt 2801 3001 3101 3301 3401 3501 3601 4101 4301 4501 4601 4701 4801 4901 5001 5101

FIG. 5B

tigotigocag etgoetetee etectigiet ettacetgee igetgeetgg gacaggaiga ageggggeee tigigitigee ceaacocigg eigitiggeta agageceaeg igateigeet gigagaggag itcelioogg aagaaceagg geagelieig occelagagg gecaaigeee tageigagig eagleeeeeg gatettggta tteagggetg ageetggagg gagettgiga igeetgaete igieteeete teiggeeeea igeetiggia geigigagge gieacigeti igggigaeet galeiggeig igalggalga goacgagaga satagtagaa gactoggaat tagaagacgt gagtgggett tggococago etecetacco eactecetgt eetgggetge etgtgaecaa ggcotagggg aggteateae asseeggtgg gttesagegs tteteetgee tesgeeteee asgtagetgg gatteeagge gtgtgeeaee aggettgaet sattttotat ttttagtaga gacaaggttt otcoatgitg gtoaggetgg totcaaacte cogacticag gigatoigee igeotoggee ecocaaagitg ctgggattac aggagtgage caccgtgcca ggccttctcc aggctcttgg caccttagcc agaaacaatt taaggacaag tgcaaaagtc atgaatgtag gacatogace teagecegtt tecaegettt tttttgtttt ttttttttt ttgagacega gttteaetet tgttgeecag getggagtge aatggegtga ggtgccacaa tttacaccca aatacaggtg ggtgtggggc tgacctttat tggtogtgge cagettggto eteatectat tttfcaggga ettattggee ettagegeat geagetattt caagttteet tetteteete gotgootggg attttgtatt cacttgctac cactctatta atctcacatt ctcgcctctt ttctgtgtca cocogtgtgg gtccgacagg ogicitiques otggitgggitg taoggittos taigitaciq atcatacasi gagaicciag gigaaacota catcaaatac agogocatgi ttyttaetag agtgeaatae aaagtettag teaagggaae eteetgaggg ttgetgaggg eaggggtgga getagtagee tgaggaeetg ceagteaegg tgggcacaga ggagggagga ggggtocatg gcoctagoat atgagaagoo totoctotgo otggaattoc catgoctoag ettococcac gtoogettge etetgaaete aegeatttet tggaagtett gggagattea cetttactea gatggttgtt tacetgtete gtgeacaget etttaaagig aggataaaga aegaggagga igggggggatg eeceettee aegggeeeig iggetteeaa aecteggeet eeteiggiet ottgictgig gagociccit caaacccagg gaaataaaac caccigocac gggitgiggi tottotagga totictatca aigitotoig aggicoccag getggggetg acteccaggg caatgggact geagtgteet tgttetttet tgttetatge atceatgete tgetecacee otgeecette cagasasasa sacctacasa ascasaccea coattgggcc tttococttt cattettetg ttttetacae ageasactea gtogtggett tggagatese tttaagettg tetecagetg geacactaag gagggtaatg gagaagetee cocaceceea acceeacee tteetteegg aageaaatet aagtecagee gtgcstggge tgetggggge etgtgggetg esetgggees gsseeetgg cacettosag sotgmeetgg agreageagg taggigadet ttocaggged ignotatoco agetitotoc tocastoci ecocioteti geologybos attagagaga gottgtetgt tggetgeet**g gegggt**tgga gtteagggge aggteaggag ocoagtgaca geteggaaaa aaaaaaaaa aaaaaaaaa gagtgtotca tgccotacaa gytcoagett tgggaagagg gtgcocagtt gtgcaatcca ggccggggca gccgtgtcct gragueacae togatageee tgetggaget cagtgteeet aateceetee agataetggt grantette aactaaagag gratatte atgaagagte caggaaaaagg taaagatte teaagacegt graduttoo tgradagtaa agggaoteae toaagaagag gaacgtgggg gtooteaaga actotypoca cacacatoco totagactyy cottytyyto agagootyya tettagetes cogesseete egecteetgg geceeageet cotecutitet ttoctggage tgaccttgga gadccatgas tgtgtctggt ggatteetea atgtgassot acteceacet 501 601 801 701 901 1001 1501 1401 1601 2001

FIG. 5A

<u> </u>	7	NII A	MIN N
EXON	EXON	EXON	EXON VIII
ofcotttgoc aatooaagag atgagotggo otggggoagg otgtgtggtg atggtgotgg ggttgagtot totgocootg oaggreerer Affriecce EXON V CAACECAAAG GATGTGGCAG TITCCTACTACTAC CACATGCCA AGGTGCACC TGAGCTGGG ACCTGGGACA GATCCTGGA GAAGTTCATG N A K D V A V S Y Y H K A K W H P E P G T W D S F L E K F H CACCAGAAAG ACCAGAAAG CACCAGAAAG CACCAGAAAG ACCTGGGAGAAGTTCATG N A K D V A V S Y Y H K A K W H P E P G T W D S F L E K F H CACCAGAAAG CACCAGAAAAAAAA		cageagroop grattecess tootgootte ttggecoags estatistics cotecoagt estagricios estagricios accesagge accesagge accesagge accesagge teges accesagge accesagge accesagge accesagge accesagge accesate accesagge accesagaca accesagge accesagaca accesagge accesagaca accesagge accesagaca accesagge accesagaca accesagaca accesagaca accesagaca accesagge accesagaca a	
g cadereercr v v v A GCTTCTGGA	ag gaaagrgfgg agoogagggg tggtggotac aacgoacago aacootgtgt tggoaccoot tgcotgott ca corecadeas regressasc reascoscac coaccorer crotacorer retareaasa carsaassa K v Q E w W E L S R T K P V L Y L F V E D H R E	6001 cagoaggood ggattocoda tootgootto tiggocoagg octooocgot acaggooda octgocacao ggototocacao ggototocaca gastaccaa 6201 gagtcagca catgggggaca gastatagca cattgotac toctgocaa aggggtoca acagtcatgg aagaagacaa 6201 caoggtoct cacogatagg acacagata gggatcacag ggoagacagg cacagggco acagggood cacagggco acagggacaga agattgotac tocagggco acagggco acaggacaga agattgotacagatagg tagacaagacagacagataggatagacagataggatag	agoettgote ectgoettee cocceage ATGGCTGGGG ACTGGAAGAC CACCTTCACC GTGCGCGAA ATGAGCGCTT CGATGCGGAC TATGCGGAGA  AGATGCCAGG CTGCAGCCTC AGCTTCCGCT CTGAGCGGCTC CTGGGGCTC TGCAGAGGAC TGCAGAGGAGA TGAGCGCTT CGATGCGGAC TATGCGGAGA  H A G C S L S F R S E L  AAGGAGTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
t totgococte G ACCTGGGAC	r CTCTACCTCT	g ggccccagoc acccagggs c acccagggs t tactttcct TCCTGCCAG TCATGACCA TCATGACCA	ATGAGCGCTT E R F GTGTGCGAAT GGTGGGAGGA GAGGAAAA
g ggttgagto c Teasccree	c aacgeacagr c ccacccrery H P T	a ectgoagoga a aggitutos a aggitutos a attocttt TOTGGGCAC CCCAGGAGT	GTGGCGCAGA T A Q N TGCAGAGGGA TGGAGGCTGA TGGAGGCTGA
g atggtgetg A AGGTGCACC K Y K P	g tggtggeta. C TGAGCCGCA.	t coeggoogo t tooggoogo t tagagaagg t TCTGGAGTT I E F CACCACGTC	CACCTTCACC T F T CTGGGGTCAC CCCAGCAATT ATAAAACCAA
y otgtgtggt c cacareecc H M A	FOCOSOGNOSTICATORS	gottocogot ctattoctac gogstocogot gottocago ATTCAAAAGA ATTCAAAAGA T Q K I T Q K I	ACTGGAAGAC  ACTGGAAGAC  W K T  AGAGGGGCTC  TGTCTGTAAT
o otggggoag	y gaaagrgrgy A CGTGCAGGAA V Q E	ttggccegg saacttagtc gaacttagt rtggccagatc KAAAGGGAG AAGAACCTA	ATGCTGGGG H A G D CTGAGCTGIQ E L CGGTAGGTCA
g atgagetgg G TTTCCTACT Y S Y Y	r cgggaggaa r GGTACCAGC	tootgootte g egocaegoog c ctaggagaga c ctaggagaga c ctaghacco n e parenta	S F R S GGCCTEGGR
c satcosaga G GATGTGGCA D V A	E T S S OF S W Y Q S S OCAC COLORS CO	ggattocos caccostage tgcagggtct coctotoctg	cotgecttoc CTGCAGCCTC C S L TATGAATTGA TGGGCAACAT G 7152
		cagoaggood gagtcagctg tcaoggtoct gagttggctc caotgaggag GTTCASCACA	
5501	5801	6001 6101 6201 6301 6401 6501	6701 6801 6901 7001

FIG. 5C

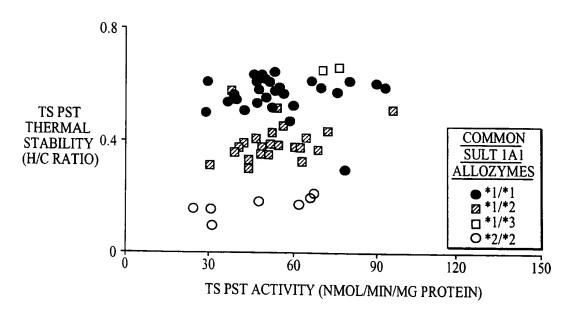


FIG. 4A

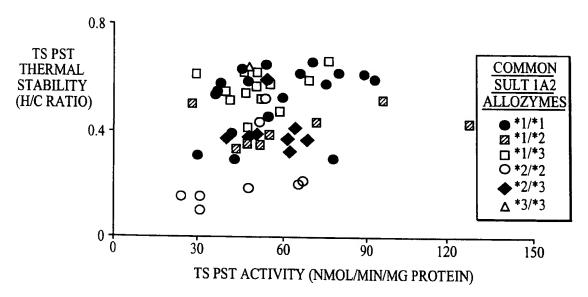


FIG. 4B

cagettiggy aagaggige coagiigie aatecaggee ggggeageeg igtecigate iiggiatiea gggeigagee iggaggggge iigigatgee gaggagttoc ttooggaaga aocagggcag ettotgocco tagagggoca atgecetago tgagtgcagt coccoggoco cagoctggto tgactotgic tetetetetg geoccatges tiggtagetg tgaggegica etgettiggg tgacetgate iggetgigat ggatgageas gggggaaata goacactgga tagocotgot ggagotcagt gtocotaato cootcoagat actggtggoc taggggaggt catcaaagac cagtgggaca togacotcag ctotecetee tigicicita ecigeciget gecigggaca ggatgaageg gggecetigi gitgeceeaa ecciggeigi iggetaagag eccaegigat ggotoaccgc tigactaatt ttotattttt gigocaggee iteiceagge ictiggeace tiagecagaa acaatitaag gacaagigea aaagicaiga aegiaggeag attiecigea ggtggagota gtagooggag gacotgocag toatggggat tootoagggg gattacagga gagtaaaggg acteaetgaa gaagaggaae gtgggggtee teaagagagt gteteatgee etaeaaggtg tggggetgae etttatggge ttetteaaet assigniggy atattoatgs agagtocagg assaggtass gatttotoss gacogliggig ocacasttta caccossata caggigitico tggagoogto ctggtcatgt gasactgctg tgggtgtacg gtttcatatg ttactgattg tacagtgaga tcctaggtga aacctacatc aaatacagcg ocatgttgct tctggttggt octgggattt totgttgtot tgotagcact ctattaatct cacattotog cotottttet gtgccacce otgotggtec ggctggttt cactagagtg cacagaggag ggaggaggg octgiggsco tagcagggga gcagcototo ctotgcotgg aaatcocatg octcagitti coccgotige ctotgagoto ctttaaatag tgaggacaaa gaacgaggag gytgggggga tgcactectt ccaegggggg etgtggette caagecteaa ectectetgg tetetgtetg tggagestee tteaaaceca gitottotag gatottotat ogatgitotg tgaggitococ agggagocat gaagotgggg otggetocoa otggeottgt ggteagagee tggagtgeat gggetgetgg aggeetgtgg gttgeaetgg geeaggaeee etggeaeett eaagaetgge etggageeag gggcaatggg actgcagtgt cettgttett tettggttet atggatecat getetgetee acceetgees etteactetg occaeaogea teactecaga toaggggoag gicaggagos cagigacago icaaaaaaaa aacoccaaaa aaaaaacocc accatigggo ocitioocot ticatiotic igititotac acaccasasco cagtogtogo tttogagato actttaagot tgtotocago tggcaaacta aggagggtaa tagagaagot cocceacoco caaccotaco caggtaggtg acetticcag ggcctgccta toccagetti etectocaat eceteceete tettgcctgg gicaattaga gaaagetigi ettitiggagi oggaattaga agacgtgagt gggotttggo occagootoc ctaccccact cootgtootg ggotgootgt gaccaacott gogtgatett agtagagaca aggiticico aigiiggica ggoiggicic aaacicocga ciicaggiga icigocigoc ioggocicoc aaagigoigg ootgittoca cgittoitgi igitititit tititigigga gacagagiti cacicitigit goocaggoig gagigcaatg tecoggytte aagegattet cetgeeteag ecteceaagt agetgggatt acaggegtgt gecaecagge egoagecago tiggicotca toctatitit cagggactia tiggecetig geacatgoag otatiteaag titectiett gggagactes cetttactes gatggttgtt tacetgtete gtgcccaggt tgaccetgga caetacaaag totoagtcaa gagggootoo tgaaggttgo tgagggoagg tggasagasa agtecetgee aggggetgtg gggaaggett ctgcctgtga ascetetgee gtggaagact ttggcactgg gtgagecace acgeasoect -3429 -3329 -3229 -3129 -3029-2929 -2829 -2729 -3629 -3529 -2629 -2529-2429 -2329 -2229 -2129-2029-1729 -1929-1829-1629-1529-1429

FIG. 6A

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N IB		11 2	III N	2
EXC		EXON II	EXO	EXO
coccygetce agreeces caactgace taagaaace teageacaga caacaceet GCATTCCCCA EXON IB AGGAGGGCAC GAGCCAGGT TCCCAAGAGC TCAGGTGAGT gacacacegg aatggeccag gacgeccag gacgeccteaggage tateccattt cagacaace cygecggect gyggaggeca gytettgetg teacegage tygagtgetg tyggateetg gygacaace cygecgget teacegage tygagtgetg tyggateetg gygactacaga cettgaatte gyggaggacta cagaccetea catectgee tygagtgetg tyggateetg gycactgeaga ttttaaaaga tttttagaga tecaaattet gygoteagacta coctaggyt etggattget caacagtget cacctgec aggateetec cacctge cocaaattet gycoteagag ctoctaggyt ctggattget caatgggyge cacctgec aggateetec	TGGCCAGCCT AGGAGTTGCC ACATGTGAGG GGCCGAGGGG CTCAAGGAGG GGAACATCGG GGAGAGGAGG GAAATGGTGA GACAAAGGGC GCTGGCTGGC AGGAAGACAG CACAGGAAGG TCCTAGAGGT TCCTCAGTGC CCTGACAICT GGGCCCCGT CCACGAGGGT GCTTTCACTG GTCTGCACCA TGGCCCAGGC CCTGGGATTT GGCGAGGGTG GGGAGCGACC ACACGAGGGT GCTTTCACTG GTCTGCACCA TGGCCCAGGC CCTGGGATTT GGCGAGGGTG ATGCTTCC TGGCACCAGGC ACACGGGC AGCCCAGGC CCTGGGATTT	TGGAGCTGAT CCAGGACATC TCTCGCCCGC CACTGGAGTA CGTGAAGGGG GTCCCGCTCA TCAAGTACTT F L I Q D I S R P L E Y V K G V P L I K Y F CCAGGCCCGG CCAGGGCCGG CCAGGCCCGG CTGATGACG CACCTACCCGTCA TCAAGTACTT T R G V P L I K Y F CCAGGCCCGG CCTGATGACG CACCTACCC AAGTCCGGTA GGTGAGGGG GCGCCGCCGCCGG CCAGGCCCGG CTGATGAG CACCTACCC AAGTCCGGTA GGTGAGGGGGGGCCCGCCGCCGG CTAAGTCCGGTA GGTGAGGGGGGCCCGCCCAGCCCA	agogagica tgotoacete agoetgetea ecteceatet ecetecete ceagGCACCA CCTGGGTGAG EXON III The properties of the second control of the second of the	aggggagtgg aggaagacag ggctggggct toagctcaco agacottcoc tgacccactg ctcagg6ATG EXON IV  CTCCT6AA6A CACACCT6CC CCT66CTCT6 CTCCCCCA6A CTCT6TT66A TCA6AA6GTC AA6GTgagac  L L K T H L P L A L L P Q T L L D Q K T K
occognetee agatemete caaactgaee taagaaacee teageacaga caacaceet GCATTCCCCAAGAGGAE TCCAAGAGGAE TCAAGTGAGG gacacacegy aatggecaag gacgecetes gaageegagg ootetgttat etetgecte tecccatgga tateccattt cagacaacee eggecygeet ggggyaggeca ggtettgetg teacegagge tggagtgetg tgggateetg geactgeag cettgaatte getaggacta cagaceetes catectgee teggagtgetg tggagteetg geactgeag ttttaaaaga tttttagaaga teccaaattet ggooteagee teoctagggt etgggattae aggtgggage caccetgee aggateetee cocaaattet ggooteagee teoctagggt etgggattae aggtgggage caccetgee aggateetee	TGGCCAGCCT AGGAGTTGCC ACATGTGAGG GGCCGAGGGG CTCAAGGAGG GGAACATCGG GGAGAGGAGC GAAATGGTGA GACAAAGGC GCTGGCTGGC AGGAAAGACAG CACAGGAAGG TCCTAGAGGT TCCTCAGTGC CCTGACAICT GGGCCCCGTT CCACGAGGGT GCTTTCACTG GTCTGCACCA TGGCCCAGGC CCTGGGATTT GGCCAGGCTG GGGAGCCACO ACALLAGAAO CCGACCTGGT tttcagocc agooccgcca ctgactggc	TGGAGCTGAT CCAGGACATC TCTGGCCGC CACTGGAGTA CGTGAAGGGG GTCCCGCTCA TCAAGTACTT  E L I Q D I S R P P L E Y K G V P L I K Y F  CCAGGCCGG CCTGATGAC TGCTCATCATCACCC CACTACCC AAGTCGGTA GGTGGGGG GTCCCGCTCA TCAAGTACTT  C A R P D L L I S T Y P K S G	agogagica igoteacete agoeigetea ecteceatei ecetecetei ecaggedacca CCTGGGTGAG  T T T T T T T T T T T T T T T T T T T	aggggagtgg aggaagacag ggctggggct teagctcace agacettcoc tgacccactg ctcagggarns  CTCCTGAAGA CACACCTGCC CCTGGCTCTG CTCCCCCAGA CTCTGTTGGA TCAGAAGGTC AAGGTGagac
c tcagcacag t gacacaccg a tatoccatti g tgggatocti t taaaaatat s aggtgggago	CTCAAGGAGG CACAGGAAGG CACAGGAAGG tttcagococ	CGTGAAGGGG	ecetectet erecerrec	agacctcco CTCTGTTGGA L L D
c taggaaaco C TCAGGtgag c toccatgg c tggatgott c tggatagtt t ctggatagttac	G GGCGAGGGG C AGGAAGACAG L GCTTTCACTG C GGGGCGGGG	TGGAGCTGAT CCAGGACATC TCTGCCCGC CACTGGAGTA CGTGAAG  E L I Q D I S R P P L E Y Y K  CCAGGCCCGG CCTGATGACC TGCTCATCAG CACCTACCC AAGTCCG Q A R P D D L L I S T Y P K S G	cotcccatct CTTCATGCGG	teageteace CrccccaGA
o cacactgao T TCCCAASAB t ctctgcct g tcaccgagg a ccatcctgc c tcctagggd	c acarereacy c ecreecres c ccaceaeee	TCTCGCCGC S R P P TGCTCATCAG	agcotgotos GAGCTCCCAT	ggetgigget ccreecrers L A L
c agatocoto C GAGGCCAGG y cototytta a gytottyct a cagaccoto c gycotoagoc	r AGGAGTTGC A GACAAAGGG A GACCCCCGTT T GGGAGCGCC	CCAGGACATC C D I CCTGATGACC	tgctcacctc	aggaagacag CACACCTGCC H L P
_1.1				1 7
t ctaagtoca C ACTGCGGGC c caacattoc t tttttttto t tgcotcagto c cagattggto	arcacagecon ercccacacacacacacacacacacacacacacacacaca	cgcag54ACA	caccttggcc ACCAGGGCGG	cotgggtges AGCCCCACGA A P R
cottoottoo ggaagcaaat otaagtooag Cacaacacca Acacacacacacacacacactooa coctgotoag ottgtggoto caacattoca gaatococot coettoottt ttttttttoo otgggotoaa gtgattotoc tgcotoagta tggggtotto caatgotgoc cagattggto	GACTBTBGCC GGBCAABTGG ATCACAGGCC CTACTBGBTG GAGGCTGGGG GTCCCAGCAB AGCTGGACTC TCCTGGAGAC CTTCACACAC TGAAAGGTGA TGAAAGGTGA ttctca otcaactca ctcaactca	ggootggoto tggoccotga cgcag5AACA  TGCAGAGGCA CTGGGGCCC TGCAGAGCTT  A E A L G P L Q S F	ototocoagg tggoagtoco caocttggoo	ATTCCTCAB grafarate cetagaraca L S G 6ASACTCTSA AAAACACACC AGCCCCACSA E T L K N T P A P R
cottootto coctgotca gaatocood otgggotca tggggtotte	GACTGTGGCC CTACTGGGTG AGCTGGACTC TGAACAGCTC ttctcactco	ggectggete TGCAGAGGCA A E A	ctctccagg CCAGATTCTG	ATTCCTCAB I P S G GAGACTCTGA E T L K
-1229 -1129 -1029 -929 -829 -729 -629	-529 -429 -329 -229	-29	172 272	372

FIG. 6B

ettetecagi bicciaibse iccissiace ascaesisca asabississ sascisasee scaeecaeee isticietae eicticiais aasaeaisaa EXON VI cttectectt tgecaaacca agagatgage tggeetgggg caggetgtgt ggtgatggtg etggggttga gtettetgee cetgeaggat greatere EXON V tgggcacagt gyttcacacc cgcaatotca gtactttggg aggetgaggt gggaagatoc ottgaageca gaagttecag ataagtetet tecaaaaaa aaacttaget gigoatagig gigigigeot gtaataccag tiacteagga ggitgaggig ggaggateat otgageetag gagittaagg tiacagegag ctctactaaa aatacaaaaa aattageegg geatggtgge aggestetgt aateceaget aettgggagg etgaageagg agaattgett gaagetggga ggeagaggtt gtagtoagoo gagacotoac oattgoacog cagootggga aacaagagoa aaactotgto toaaaaaaaa aagaaaaaaa taaaaaagog goaggtggoa gggggetggg cotgitgigg cicacgecig taataccage actitoggag giogaggigg geagaicaee caaggitagg agitigagai eagiciggee tggggcagge gecagtaato ccagetacto gggaggetga ggaaggagaa tagotigose eigggaggeg giggitgeag igageegaga tigigeeaei giaeteeage eigggagaea eaaegagaea itgitteaaa eaaaaeaaat aaatatttta aaaggtttgo oacctgggtg gotcaccgot gtaatgccag cattttggga ggccaagatg ggtggaccgo ttgagctcag gagttccaga ccagoccagg asscatgggg agactocato totataasag atgcaastas toagoagggo atggtggcat agogotatag toccagotac toaaaagtot aaggiiggag gatigotiga gocigggagg toaacgiigo agigagotai totoacicca gigcacicca accigggcaa caggaaaaaa gaaagcccaa ggicititit cicititicic titititiga gacciagagi occocccoc asasasasa asaccacasc aasaagaasa aagcaaaggi ccaggigig gypatgigaa tecagggaag gaggeecegg otcageecag ettiggieet giteiteigg gagagiegoe teaetteete cagaetigie teatetteea oggggggac igicigecti tigeteigai gaceaaaac aigagaciei teegggiaga ectaagaaag giagaggig ggiceicaca gaceeaca atttggtggt ggtgggaaca tgcctggtgg agcatgcctt gctccagatc ggggtgtgac gcattgatgc agattatatt actatagaat atgatggtct goaggactit ggottitgag cagggitteag atcetgacit ggocciacet gigcogigag atcicaaaca agicagocic taagceiteag CCGCAACGC AAAGGATGTG GCGGTTTCCT ACTACCACTT CTACCACATG GCCAAAGTGT ACCCTCACCC TGGGACCTGG GAAAGCTTCC TGGAGAAGTT CATGGCTGGA GAAGGtgggg ttgatgggag gaaggaaggt gtggagetaa ggggtggtgg etaeaaegea cageaaceet gtgteggeae eeetgeeeg ctatgatose accagtgese tecaggetgg gigaesgaga asesetgiet esasasaega igastagasa gagigieces ceagigeggi gtaatteea geaettgaag aggetgagge aggtggatea eetgagaeta ggagtttgag ateageetgg ceaseatgge aaaaeeeeat ESFL Y H H A K Y Y P H P G T W aacatggaga aaccocgtot otactaaaaa tacaaaaatt agccaggogt ATSYYHF cagggaccag 872 072 1172 1272 1372 472 1572 1672 1772 1872 2072 2572 1972 21722372 2472

FIG. 60

38Agtgaga cogectitga igeticeeto eacgigacae eigggggeag geaeticaea gggaeeigee aaggeeacee ageeaceete eeigggegge

E W W E L S R T H P V L Y

H ¥

SWYO

SYG

l acctetgeet cetggtteea ageaateete etteeteace etceagagta getgggatta 61 cacgcgcctg ccaccgcgcc tggcctaatt tttgtatttt tagtagagat gggggtttcc 121 aaccatgttg gccaggetgg tetecaaact cetgacetea ggtgateetg eccacetaag 181 cctcccaaaa tgctggtatt acaggcatga gccaccgtgc ccggcctaaa taattaataa 241 aataatggac gatgggtgcc ttctactgag ctcccggtaa ttgtgagtga gtagaggact 301 tgccctgggg acattcagtg acctgctggg tgttgctgag ctgtgaggaa gttcaggtct 361 ggctgcagtg gtgaggctgt gactcaatca atcactgctg atgctcccag gacctgcacc 421 agettagtee taggggeaag gattttaact gtecacetea gtttetteat ttgtaagatg 481 caaataacag teacceetge eteatgggat ggagetgtgt aatgeeegea acagtgeetg 541 ctgcatagag gggttgctgc cagctgcctc teceteettg tetettacet gcctgctgcc 601 tagatcaaga taaagaacaa codttgtgtt gcccccaccc tggctgcctg ctaagggccc 661 atgtgatetg cetggeagag gagtttette aggaagaace agggeagett etgeeectag 721 agggccaatg cccttggtga gtgcagtccc ctggccccag cctggtccac ctctgggaag 781 agggtgecca gttgtgeaat ecaggeccag geagetgage ecteatetea geatgeaggg 841 cggatactgg agggggcttg tggcatctga ctctgtatct cctacctgcc cctctccttg 901 gtagctgtga gaagtcactg ctttggggag acctgatctg gctgtgccag atggacactg 961 agaaagaagt agaagactca gaattagaag aggtgagtgg gctttggtgg cgggctccct 1021 accecaetce etgecetggg etgeetgtga ceaeactget tgeetetgea ggeacaetgg 1081 acagacctgc tggagacctg atcctcagtg tccttacccc ctcctacctc ttttctgtgc 1141 cacctgctgt gggtccagca ggtttttact tgagtacaat aaaaagtctg agtcaagggt 1201 gccttatggt ggatgctgag gggaggggcg gagctagtag cccaaggtcc tgccagtcac 1261 ggggcttcct caggggcaca gaggaggcag gaggggcccc tggccctagc acgtgaacag 1321 cttctactct gcctggaaac cccatgcctc agetttcccc tacttgcctc tgagctcatg 1381 caattettgg aageetggga gaettaeett gaaattgaat geaaatagga caaagaeeaa 1441 ggaggatggg gggatgccct cettccacgg ggccctgtgg cttccaagte ttaateteet 1501 ctagtetett gtetaeggag ceteetteaa acceagggaa agaaaageae etgeeagggt 1561 tgtttttctt ctaggatett ctattgatge tetgtgaggt ceeccaggag ccatgaaget 1621 agggetgget cetagggeaa tgggactaca gtgteettgt cetttettat tetttetgtt 1681 ctttctttct ttctttttt tttttttt tttttttgag acagagtctc actctgttgc 1741 ccaggctgga gtgcagtggt gtgatcttgg ctcactgaaa cctccgcctc ctgggttcaa 1801 gtgattetet tgeeteagee teetgagtag etaggattae aggtgeeege eateatgeee 1861 agctaatttt tgtattttta gtagagacag ggtttcacca tgttggccag cttggtctcg 1921 aacteetgae eteaggtgat eetgetgeat egaeeteeca aagtaetggg attacaggeg 1981 tgagccacca cgctcagcct ctttcttgtt ctatatgtcc atgctctgct ccacttctgc 2041 coettcacte tgccccacae atcactecag actggcettg tggtcagage ctggaatgcc 2101 tgggctgctg ggggcctgtg gactgcactg ggccagaacc cctgccgcct tcaagactgg 2161 cetgtageca geaggtaggt gaetttteec aggeeggeet ateceaeett teceetecae 2221 teacteacet ecettgeetg ggteaattag agaaagettg teggeeagge atggtggete 2281 atgectgtaa teteageaet ttgggaggee gaggegggeg gateatetga geteaggagt 2341 ttgagaccag cctggccaac atggcaaaac cccgtctcta ctaaaaatac aaaaattaac 2401 cggatgtggt ggtgtgcacc tgtaatccca gctactcggg aggctgaggc agaagaatcg 2461 cttgaaccca ggaggggag gttacagtga gcggagatcg tgctactgca ttgcagcctg 2521 ggcgagagag cgagtctcca tctcacataa aaaaaagaaa aagaaagaaa gcaagcttgt 2581 ctgttggcct gccctgcagg gtggagttca gagggaaggt caggagccta gtgacagctc 2641 aaaaaaaaa aaacccaaat accaatgttg gccccttttg cctttcattc atgtgttttc 2701 tatacactaa actcacatat tgggtttgca gatcactcca agcttggctg gagctgtggt 2761 ggtaaggagg gtaatagaga agetteecea eceteaacee caeceettee tteetggagt 2821 teccageet gaetttagat eeeteegaea etggaeette aaaaceetea gggeagagag 2881 cageeetaea etecetaeae cacaeeeata eteageeeet geaggeaagg agagaacagg 2941 tcaggttccc gagagetcag gtgagtgaca cgttggaatg gcccagggca ccttcaccet 3001 getcagettg tggetccaac attetagaag cegaggeete tgecateeet geeettteee 3061 atggatattc catttcaatt agacaaccca gcctggccgg aacccccctg cgttccttct 3121 tttcctttgt gtatttttga gacagggtgt tgctccgtca cccaggctgg agtgtagtgg 3181 gatectggcc cactgcagcc tcaaatteet aggetgagge aatectgeeg ceteageete

FIG. 7A

3241 ctgagtaget ggggttacaa gagcaageca ccacacecag ctaattttga aaaatatttt 3301 ttgtagagga gaggtettge tttgttgtee aggttggtet caaaetecag ggeteaaggg 3361 atcetttece gttggeetee caaggetetg ggattacagg egggagteae eetgeetggg 3421 ceceteettt tgatgagtea teagttttea tteeegeaeg aggetetage eeetggtace 3481 agethaghtg cheaatggge tgtgthtgth chggageeca ganggaetgh ggeeaggeaa 3541 gtggatcaca gacctggccg gcctgggagg tttccacatg tgaggggcat gaggggggct 3601 caaggagggg agcatcgggg agaggagcgc actgggtgga ggctgggggt cccagcagga 3661 aatggtgaga caaagggcgc tggctggcag ggagacagca caggcaggcc ctagagcttc 3721 ctcagcacag ctggactctc ctggagacct tcacacaccc tgatatctgg gccccgcgct 3781 acgagggtgc tttcactggt ctgcactatg ccccaggccc tgggattttg aacagctctg 3841 caggtgactg aaaggtgcgg ccaggctggg gaacgacctg gtttcagecc cageceegec 3901 actgactgac tttgtgagtg cgggcaagtc actcagcctc cctaggcctc agtgacttcc 3961 ctgaaagcaa aaactetgea aaggggeage tgggtgetgg eteacacetg taateecage 4021 actttgggag getgaggtag acaaateaet tgaggeeagg agreetagae eageetggee 1081 aacatggtga aaccccatct ctactaaaga aaaaaaaaa ttagctgagc atggttgtac 4141 atgettgtaa teecagetae ttgggatgee gaggegggag gattgettga acceaagagg 4201 tggagtttgc agtgagctga gattgtgcca cactgcactc cagcttgggt gagagtgaga 4261 etecatetea aaaaaaaaa aaaaaagaga gaateeeaet ttettgetg: tgtgatggtg 4321 gtaagggaac gggcctggct ctggcccctg atgcacgaac atggagctga tccaggacac 4381 Ctcccgcccg ccactggagt acgtgaaggg ggtcccgctc atcaagtact ttgcagaggc 4441 actggggccc ctgcagagct tccaagcccg acctgatgac ctgctcatca acacctaccc 4501 caagtetggt aagtgaggag ggccacccac ceteteccag geggcagtee ecacettggt 4561 cagcaaggte gtgccetcag cetgetcace tectatetee etecetetee acgcaccace 4621 tgggtgagcc agatactgga catqatctac cagggcggcg acctagagaa gtgtaaccgg 4681 geteceatet acgtacgggt gecetteett gaggteaatg atccagggga acceteaggt 4741 gcatggctgg gtcctggggg taagggaagt ggaggaagac agggctgggg cttcagctca 4801 ccagacette cetgacecae taetcacgge tggagaetet gaaagacaea cegeeeceae 4861 ggctcatcaa gtcacacctg cccctggctc tgctccctca gactctgttg gatcagaagg 4921 teaacgtgag geeggqetea atggtteaca cetgteatee cagtttgaga etgaggaggg 4981 aggatecett gaaggegaga gatggagaee ageetgggea acattgetgt agagatgaea 5041 teccatetet acaaaaataa aattaacaae etggtatggt ggcatagaet gtteecagtt 5101 acttaggagg ctcagcgggg aggactgttt atgcaaatag gaagctgcaa tgagccctga 5161 tgatcctgct gctgcactcc agcctgggca acacagcaaa accatctcta cgaaaaaaaa 5221 agttcccact gactggcaag gaaagccagg aaggggggct caggtgccct ctcagccatg 5281 tacctgttct tctggaaggg cctcctcgct tctgccaggc tcatcacatc ttttttttt 5341 ttgagacaga gtcttgctct gtcaccctgg ctggagtgca gtggcatgat ctcagctcac 5401 tgcaacctcc gcctccccag ttcaagtgat tctcctgcct cagcctcctg agtagctggg 5461 attacaggog tgtgctacca caccoggota attititgtat tottttagt agagacgggg 5521 tttcaccatg ttggtcaagt ggatctcaaa ctcttgacct tgtgatcctc ctgcctcgac 5581 ctcacaaagt gctggaatta caggcgtgag ccaccgcgcc tggccctttt ttttttgag 5641 acagttteac tettgttgee gaggetagag egeaategtg tgateteggt teaetgeaac 5701 caccgcctcc tgggttcaag caattctcct gcttcagcct cccaaggagc tgggattaca 5761 ggtacctgcc-accacgcccg gctaattttg tattttagt agagatgggg tttcaccatg 5821 ttggtcaggc tggtcttgaa ctcctgacct caggtgatct ggcaccttgg cctcccaaag 5881 tgccgggatt agaggcatga gccaccacgc ccagcettca tcacatettg agagaggaca 5941 ctgtctgcct cttgctctga tgagggtctg atgcaaagga tagtgagtct ctacagtgca 6001 cacttaagaa aggcagcatg tgggtgctca caggtcaggc ggaggagggg gagctggtgg 6061 ggaccaggca tgccttgctc cagatcagga tatgatggca ttggtgcaga ttatattagt 6121 atagaatatg gtctcaggaa ccaggcagga ctttggcttc cgagcagggt tcagatccca 6181 gettggeet acetgtgeag tgagatetea ageaagteag cetetaagee teaggtteet 6241 cetttgecag ttcaacagat gagetggeet ggggtgget gtgtggtgat ggtgctggg 6301 ctqqqtcctc tqcccctqca qptqqtctat gttqcccgaa acccaaagga cgtggcgqtc 6361 tectactace atttecaceg tatggaaaag gegeaceetg ageetgggae etgggaeage 6421 ttcctggaaa agttcatggc tggagaaggt gggcttgact ggaggaagga gggtgtgaag 6481 ccgaggggtg gtggctataa cgtacagcaa ccctgtgtcg gtgccccctg cccgcttctc 6541 tadEgeceta egggeceegg taccageacg egcaggaget gegggagetg agecgcacee 6601 accougnict chaccucute targaagafa tgaaggaggt gagaccgact gigatgotte

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6661 cccccatgtg acacctgggg gcaggcacct cacagggacc caccaaggcc acccagcccc
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6781 cccccactgc agecccacct ggcagcaggc teggcacagc tttcatette tgcacetgag
6841 teagetgeat gggtggeeae ggateagata ettagteeta ttgettatee teaccaaagg
6901 gtgtgccacc cagggccaca gtcatggaag aagaccatcc cggtcctcac ccataggcgc
6961 caageeetgt teatgatggg atcaeaggge agagateaat teattttaet eeajagaeta
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7141 ccaaaaggga gattcaaaag atcctggagt ttgtggggcg ctccctgcca gaggagacca
7201 tggacttcat ggttcagcac acgtcgttca aggagatgaa gaagaaccct atgaccaact
7261 acaccaccqt cccccaqqaq ctcatqqacc acagcatctc ccccttcatg aggaaacgtg
7321 ggtgctggcc agcacggggg tttgggggcgg gtgggagcag cagctgcagc ctccccatag
7381 gcacttgggg ceteceetgg gatgagaete cagetttget eeetgeette eteceeagg
7441 catggctggg gactggaaga ccaccttcac cgtggcgcag aatgagcgct tcgatgcgga
7501 ctatgcggag aagatggcag gctgcagcct cagcttccgc tctgagctgt gagaggggct
7561 cctggagtca ctgcagaggg agtgtgcgaa tctaccctga ccaatgggct caagaataaa
7621 gtatgatttt tgagtcaggc acagtggctc atgtctgcaa tcccagcgat ttgggaggtt
7681 gagetggtag gateacaata ggeeacgaat ttgagaecag eetggtaaaa tagtgagaec
7741 teatetetae aaagatgtaa aaaaattage cacatgtget ggeacttace tgtagteeca
7801 gctacttggg aagcagaggc tggaggatca tttcagccca ggaggttgtg gatacagtga
7861 gttatgacat gcccattcac tacagcctgg atgacaagca agaccctccc tccaaagaaa
7921 ataaagetea attaaaataa aatatgattt gtgtteatgt agageetgta ttggaaagga
7981 agagaaacte tgagetgaaa gagtgaatge eeggtgggge cacatatggt caceteteee
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8221 tragaageta ccaggtacet etgggecaea etgagatgag gggagtagee geetgeatag
8281 gaggtgtett caaacaggat agtatagtec eteetggggg ttgtgggggt aggtggeeaa
8341 ggaagggtag aggagcaagc ccccggggct ggttgtcaac tcactttgtt ggctggaatt
8401 ggttgtaact tgaccaccte gggcaggate ccactgetca tecccaa
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FIG. 7C